CLOSE TO HOME AND SERVING LOCAL PEOPLE

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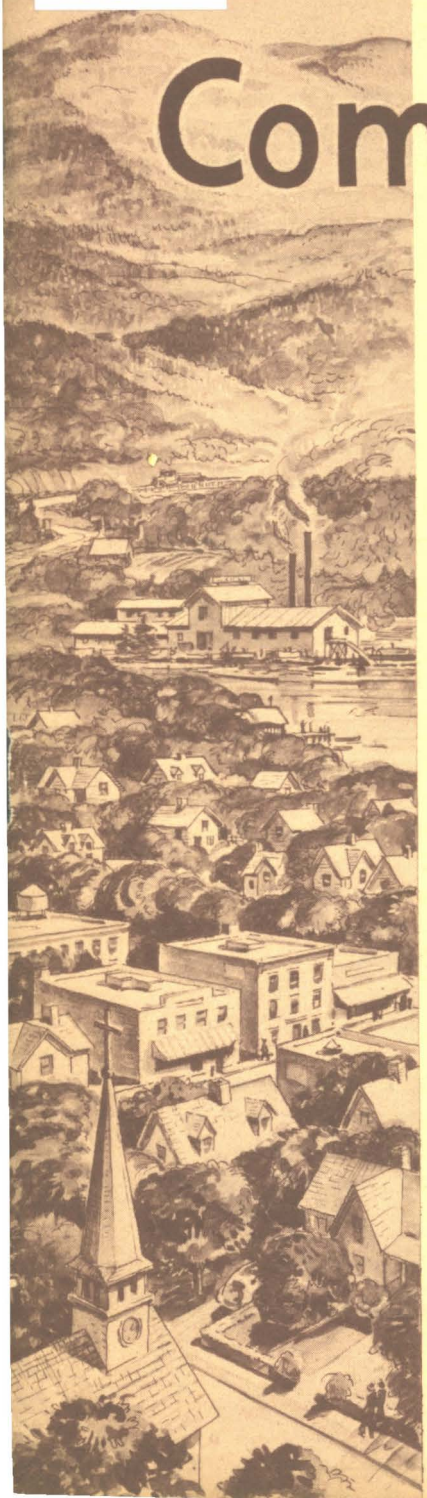

Community Forests

U. S. Department of Agriculture
Forest Service

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How to Start a Community Forest

1. Explain to presidents of various organizations in the community the uses of community forests and their value in helping to rebuild depleted natural resources. Include businessmen's and farmer's organizations, women's clubs, sportsmen's associations, patriotic organizations, civic clubs, religious societies, fraternal orders, officers of the community government, etc.
2. Call a meeting of the representatives of the organizations contacted, as well as other public-spirited citizens. The State forester will be glad to furnish a speaker for this meeting, if it is possible for him to do so.
3. At the meeting a nominating committee may draw up a list of committees. Depending upon local conditions, some of the committees and their duties would be:
   (*a*) Land-acquisition committee to see public-spirited men who might be interested in creating a memorial by donating land or money toward purchase of the land. The committee should also contact Federal, State, county, and municipal agencies about tax-delinquent or other lands that might be of greater service to the people if converted into a community forest.
   (*b*) Forest trustee committee to contact the State forester about developing a plan for management and recreational or other uses of the forest.
   (*c*) Legal committee to study ways and means to set up a permanent committee of forest trustees that can give continuous management to the community forest without being affected by changing administrations.
   (*d*) Educational committee to inform the public about the advantages of a community forest. The State forester upon request can often furnish informative material for distribution or for use in local papers.

A sound beginning has been made toward the establishment of a useful community forest when proper committees have been appointed and the public is thoroughly informed. Once the forest has become a reality, public interest can be maintained by making it useful in as many different ways to as many people as possible.

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

COMMUNITY FORESTS

NELSON C. BROWN, *Collaborator*

Division of State Forestry, Forest Service

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Contents

	Page
Foreword	III
Close to home, serving local people	1
What community forests are	2
Progress of the movement	3
Stories from various States	4
Experience in European countries	21
Why community forests are started	24
An aid to local labor	28
Possibilities of profits	30
Some questions often asked	31
Guidance by State foresters	35

FOREWORD

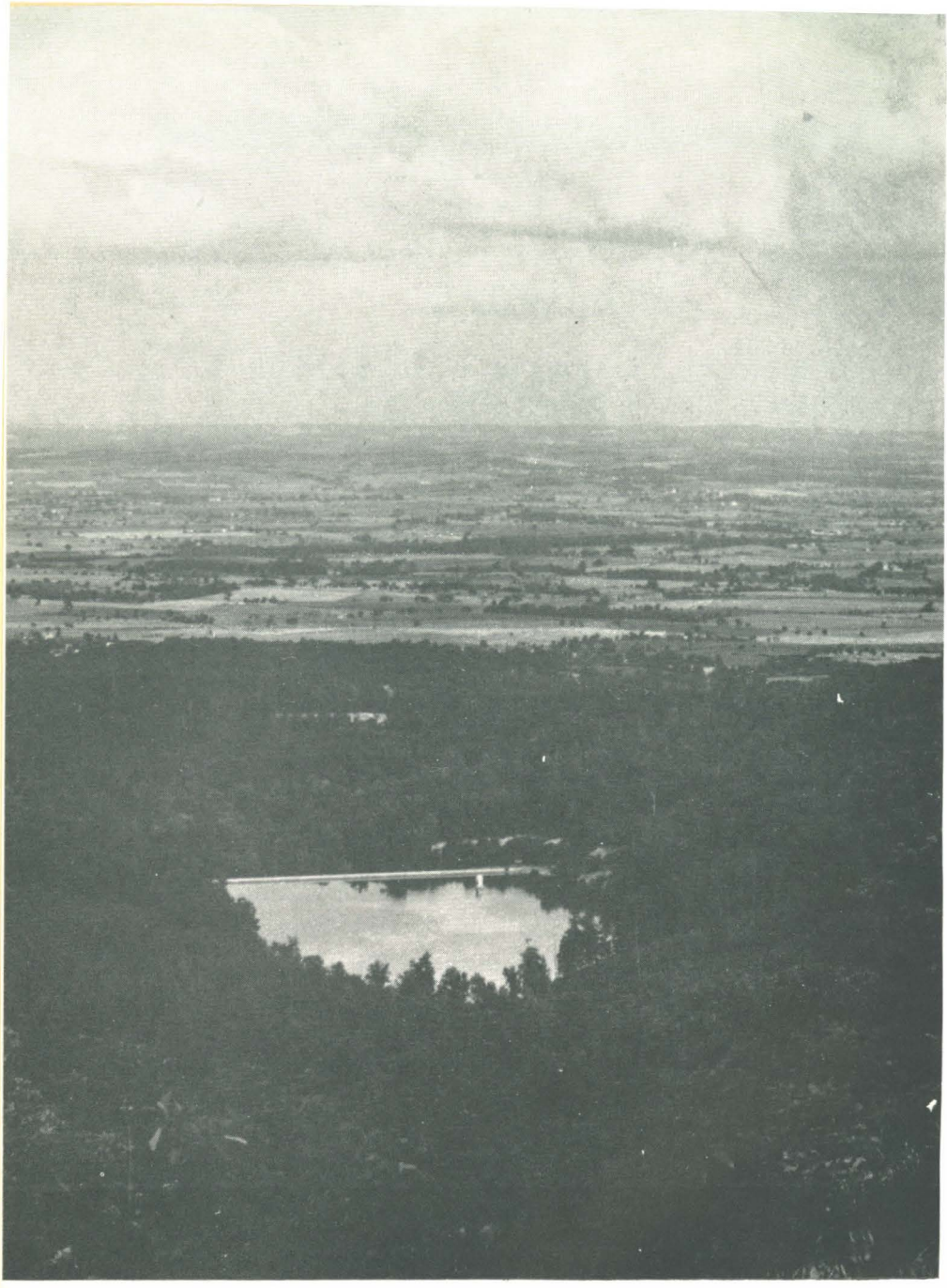
Community forests are an old and popularly accepted part of forest conservation. They have helped for many years to reduce local taxes by yielding profitable timber crops. They have also provided other benefits, such as watershed protection, outdoor recreation, shelter for bird and beast, and permanent jobs through the sustained production of cordwood, posts, telephone poles, railroad ties, Christmas trees, pulpwood, and logs for lumber.

I believe more of our communities could profit economically, socially, and spiritually by ownership and operation of their own forests close at home. I am in favor of more and better community forests. Development of such local forests would be an important step in the rebuilding of our natural resources and would provide additional outdoor playgrounds for the children of America.

I am very glad to endorse the Forest Service program to establish and maintain more community forests.

Franklin D. Roosevelt

THE WHITE HOUSE
WASHINGTON, D. C.
March 17, 1939.



Watershed forest of 6,200 acres owned by the city of Frederick, Md. The stream feeding the reservoir has been stocked with trout, and the woods harbor such game as rabbits, wild turkeys, pheasants, and deer. Hundreds of cords of wood have been cut from the forest for distribution to needy families. On certain areas where there is no danger of contaminating the water supply cabins and picknicking are allowed.

COMMUNITY FORESTS

Close To Home, Serving Local People

SURROUNDING the town of Newington, N. H., is a forest which the town itself owns. For more than two and a quarter centuries—since 1710—this publicly owned local woodland has played a definite part in the life of the community. Although only 110 acres in size, it has supplied materials to help build the village church, parsonage, town hall, school, and library. In late years it has furnished planks and timbers for bridges and similar improvements, and in some years has supplied as much as 30 cords of wood to heat the public buildings during the winter. The people of the community use and enjoy this forest, for it is close to home where it enriches the lives of all.

The community-forest idea, initiated in this country at Newington, germinated on fertile soil. In the New England States, outside of cities, the town is the important political unit. It bears practically the same relation to the State government that counties do in most other States. The initiation of local public projects or activities, the raising of funds by taxes, and the ways in which the funds are spent are determined by a vote of the people in town meeting. Here, under close observance, these local forests have become of considerable importance in various ways.

Towns, counties, boroughs, and cities in other sections of the United States also own forest lands that have been set aside for definite purposes. The lands in these forests seem destined to remain in public ownership and to increase.

Because the forest resources in thousands of communities have been used without replenishing, they are no longer adequate to support the population as they once did. Forests used without replenishing soon disappear, resulting in idle acres and jobless men. Robert W. Chambers once said: "When the forests go, the waters go, fish and game go, crops go, herds and flocks go, fertility departs. Gradually the age-old phantoms reappear, stealthily one after another—flood, drought, fire, famine."

View of the young pine forest belonging to Newington, N. H. This forest of 110 acres has played a vital part in the life of this New England town for more than two and a quarter centuries.

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More and more it is being recognized that the rebuilding of natural resources may well start at home, and local leaders are accepting community forests as one means of putting misused and idle lands to work. Because of their proximity to living centers, these local projects become service forests having definite social and educational advantages to the communities that own them. The proximity of the forest to the community favors the development of a friendly attitude toward all forests. People soon acquire a sense of pride in, and responsibility for, the nearby woodland in which there is common ownership.

In recent years many local, county, and State boards have been devising plans for the wise use of lands and other natural resources. Foresters see community forests as a concrete way to make local planning effective. Although of primary importance to the communities, such forests also fit into larger State and national conservation plans.

What Community Forests Are

In New England the local public forests, such as that at Newington, are known as town forests. Locally in other regions they may be known as town, village, municipal, city, county, city watershed, school, hospital,

church, or memorial forests. All these are grouped in this publication as community forests. They may serve one or more of several forestry purposes depending upon local circumstances. Growing timber crops is usually, but not always, a principal ultimate objective. Often the management plan includes a multiple-use program.

Progress of the Movement

Few community forests had been established outside of New England before 1900. The idea had taken root, however, and by 1910 through the efforts of various forestry leaders, it had been well publicized. In the next decade public sentiment favorable to the creation and operation of community forests resulted in passage of various State laws providing for their establishment.

Incomplete reports now show approximately 1,500 community forests in the United States, varying in development from the initial to the more advanced stages. These properties contain an estimated 3 million acres of land. On them more than 146 million trees have been planted.

The forest at Newington pointed the way in New Hampshire. Among other towns that have established similar projects are Concord, Manchester, Warner, Milton, Danville, Durham, Hillsboro, Keene, and Gorham. The community-forest system in the State now includes 102 units of which 91 are town forests and 11 are watershed forests. More than 2 million trees have been given by the State for planting in the town forests.

Vermont has 44 community forests, locally known as municipal forests, located both in the Green Mountains and in the agricultural valleys at such towns as Rutland, Essex Junction, Middlebury, Barre, Montpelier, and Bellows Falls.

Passage of the Town Forest Act in Massachusetts in 1913 encouraged the towns of that State to establish local public forests. Harris A. Reynolds, secretary of the Massachusetts Forest and Park Association, has been a leader in the movement. The State itself provides trees free of cost for planting on town forests and the State forester makes simple working plans and gives advice regarding the management of these areas. Some of those best known are located at Petersham, Russell, Groton, Walpole, Plymouth, and Fitchburg. Of the 177 community forests in the State 102 are town forests, organized under the provisions of the 1913 act. The other 75 are watershed forests. The total area of community forests in the State is 169,800 acres.

New York has 579 such projects containing 200,000 acres. In 1938 alone 20 new community forests were established in the State. The first one was started at Gloversville in 1909. Plantings in all have amounted to more than 70 million trees, mostly on abandoned farm lands Trees in

many of the plantations are now of such size that they are in need of thinning. The New York forests are in 5 distinct types of ownership; namely, county, town, city, village, and school district. Counties that have planted more than 3 million trees include Oneida, Erie, St. Lawrence, Saratoga, and Otsego. Lewis, Jefferson, Oswego, and Onondaga Counties and the cities of Glens Falls, Little Falls, and Rochester have planted more than 2 million trees each. New York City has planted 5½ million trees on its Catskill and Croton watersheds. Troy, Carthage, Jamestown, Herkimer, Malone, Johnstown, Middletown, Oneonta, Lowville, and Gloversville have each planted from 400,000 to 2 million. At Sherburne, a town of 1,077 people in an agricultural district, there are 3 types of community forests—a watershed forest of 400 acres, a town forest of 400 acres, and a school-district forest of 12 acres. On these 3 forests 772,000 trees have been planted.

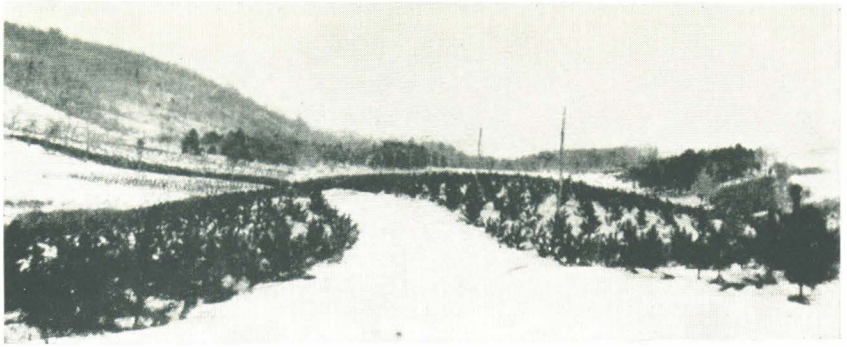
Pennsylvania reports 134 community forests with a total area of about 50,000 acres on which more than 5 million trees have been planted. Eight are town forests and the others are borough forests, forest parks, and municipal watershed forests. Among the communities owning forests are Reading, Lockhaven, Franklin, Pittsburgh, Du Bois, Altoona, Ashland, and Hanover. Several communities have planted between 200,000 and 500,000 trees each.

From the Northeastern States the community-forest idea has moved south and west, the form and purpose varying according to local needs and land problems. The largest venture of the kind is that reported from Seattle, Wash. The school and county forests of Wisconsin, described in detail later, are a phase of the movement. Large sums are also spent annually in forestry activities by Los Angeles, Ventura, Santa Barbara, and San Mateo Counties, Calif.

Incomplete reports to the Forest Service show the following distribution of community forests in various States: Alabama, 3; Colorado, 2; Connecticut, 19; Florida, 1; Georgia, 25; Illinois, 10; Indiana, 10; Iowa, 4; Kentucky, 2; Louisiana, 3; Maine, 25; Maryland, 4; Massachusetts, 177; Michigan, 112; Minnesota, 6; Missouri, 5; New Hampshire, 102; New Jersey, 10; New York, 579; North Carolina, 37; Ohio, 25; Pennsylvania, 134; Rhode Island, 5; South Carolina, 3; Texas, 5; Utah, 4; Vermont, 44; Virginia, 3; Washington, 3; Wisconsin, 174.

Stories From Various States

Glens Falls, N. Y.—A city of 19,000 persons in northern New York, Glens Falls has gradually extended its watershed holdings until it now has 3,650 acres of native and planted forests located 2 to 7 miles west and northwest of the city.



Three views of the Gloversville, N. Y., community forest, oldest in the State: TOP.—*Red pines a few years after planting in 1910.* CENTER.—*The same area in 1925.* BOTTOM.—*Some 26 years after planting, 1936. Shortly before the 1936 picture was taken the plantation had been partially thinned and pruned*

Reforestation operations were started in 1910. More than 2,265,000 trees have been planted and each year several thousand more are being set. The species used have been white pine, Norway spruce, red pine, Scotch pine, and some white spruce and balsam fir. One year 500,000 trees were planted. During recent years thinnings from the forest have yielded about 2,500 cords of wood with a market value of $5,000. This has been used to aid needy families.

The primary objective of the Glens Falls forest is to insure and maintain a flow of pure water for the city's four reservoirs. It has been the means of putting once idle and abandoned farm lands to productive use. Ultimately these lands are expected to yield profitable timber crops. The forest also provides a recreational outlet for local residents. It is in a scenic area overlooking the upper reaches of the Hudson River and the highlands of the Adirondack sections as well as the Green Mountains of Vermont. Winter-sports activity is increasing in the area, and the community forest should become increasingly useful in this phase of recreation.

ONONDAGA COUNTY, N. Y.—In the hilly and abandoned farm sections in the southern part of Onondaga County, about 16 miles south of Syracuse, approximately 2,200 acres have been acquired as a nucleus for a county forest. The land was purchased at a cost of $5 an acre, except for a small tract of 200 acres at $10 an acre. Near the entrance of the forest are about 30 acres of almost mature hardwoods. An old farmhouse has been reconditioned to serve as headquarters for extensive recreational uses including picnicking, camping, and hiking in summer, and skiing, snowshoeing, and skating in winter.

The Onondaga forest was started in 1930 after many discouraging difficulties were overcome. At first the State allocated $5,000 to the county as a subsidy to assist in promoting a system of county forests, but now the county is proceeding without outside aid. The popularity of the development results largely from its recreational facilities, but definite timber values are also being built up. More than 2,000,000 trees, largely white pine, red pine, Scotch pine, Norway spruce, European larch, and northern white cedar have been planted. Onondaga County has several other community forest units. One area of 50 acres, which was formerly a public dumping ground and an unattractive eyesore, has been converted into a conifer forest.

LITTLE FALLS, N. Y.—A city of about 11,000 inhabitants, Little Falls has 2 watersheds comprising about 5,000 acres. A forest-management plan was outlined for this area in 1926.

The forest on one unit consists mostly of naturally grown hardwood and conifer timber. The other unit is composed of abandoned farm and idle lands which have been planted with more than 2½ million trees. The

planted trees were obtained free from the State conservation department. They were principally Norway spruce, white pine, red pine, European larch, northern white cedar, and balsam fir. Adequate fire lanes have been established, the larger and older plantations have been carefully thinned and pruned to increase the rate of growth of the final crop, and fire protection is being maintained.

The native stands have been cut over twice, yielding a total of more than $26,000 net income from sawlogs, an amount sufficient to liquidate the entire original investment in the property from which the timber was cut. Local authorities estimate that because a selective cutting was made to certain diameter limits, the forest capital should so increase during the next 25 years that an equal amount may again be cut. The cost of planting the 2,500,000 trees on the other watershed should be more than repaid from the sale of timber crops. The cost of planting was about $6.50 per acre. It is estimated that there now is 750,000 board feet of native timber worth at least $7,500 available for cutting on this watershed.

Little Falls uses about 3½ million gallons of water daily. Although 1930 was the driest year in local history, the city engineer reports that both catchment areas continued to furnish an adequate supply of water even though many other lakes, streams, and springs in the vicinity were completely dry. As a result, the citizens of Little Falls have come fully to appreciate the value of reforestation in maintaining an adequate and pure water supply.

Young Norway spruce plantation in foreground and a 21-year-old red-pine plantation in background on the Little Falls, N. Y., city forest. The plantation on the steep slope in the foreground was not successfully started until the older plantation was high enough to serve as a snow and windbreak.

LITTLEFIELD

BOTTOM.—F-263034

TOP.—*A 20-year-old red pine planting in the Little Falls forest, photographed in 1937. On this area there were 1,090 trees per acre previous to thinning down to 848 trees per acre. The thinning removed 5.5 cords of wood per acre.* BOTTOM.—*Thrifty young red pine plantation near site of the old almshouse on the Petersham, Mass., town forest. Merchantable timber from this forest has been sold for $5,200.*

PETERSHAM, MASS.—An outgrowth of the town's poor farm is the forest owned by this community. Abandoned for its original purpose, the farm had been neglected and almost forgotten for many years, growing up meanwhile to a volunteer stand of white pine. The idea of converting the old poor farm into a town forest was advanced by the late R. T. Fisher, former director of the Harvard forest. Originally about 100 acres in extent, the area has been enlarged until now the town forest comprises about 165 acres. Had the tract been sold for farming purposes in 1920 when the town forest was established, it would have brought only a nominal figure based on the land value, the timber not being considered as an asset. Rather than sell the farm at a low price and with difficulty in finding a buyer at any figure, the community kept it and protected the timber. During the intervening years white pine has been sold for $5,200, much more than the tract would have brought as a run-down farm, and with good management the timber income should increase in the future.

WESTFIELD, MASS.—The city of Westfield has gradually acquired a forest of 5,600 acres. The forest not only helps in maintaining an adequate flow of pure water for the city but also adds to the scenic beauty of the Berkshire region in which it is located. Planting was begun in 1909. About three-quarters of a million trees have been planted. Species used have been white, Scotch, red, jack, and Austrian pine, and some balsam fir and Norway and white spruce. About 300 cords of fuel wood has been cut from the forest during each of the last 5 years. Much of this wood has been distributed to families on relief rolls. Assuming a stumpage income of $2 a

On the 5,600-acre city forest at Westfield, Mass., nearly three-quarters of a million trees have been planted. One of the half-grown plantations is shown here following pruning and thinning in order to improve the quality of the future timber crop.

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F-358768

Wood cut for the City Welfare Department from the Westfield, Mass., community forest.

cord, the fuel wood harvested represents the equivalent of $600 a year or $3,000 for the 5-year period. In addition many poles and other products have been cut and used by the city or sold.

RUSSELL, MASS.—The forest owned by the town of Russell was started 20 years ago with less than 100 acres and an appropriation of $100. A serious social and economic situation had existed in the uplands and mountainous areas surrounding the town. Some of the landowners were disturbed because they could not make a living and local officials were alarmed because they were not getting sufficient tax income to maintain the roads and keep them open in the winter and to operate the rural schools. Some of the families were moved from worn-out farms to better land near the village. The abandoned hill farms were converted into a town forest. School and road expenditures were thereby reduced. Much of the land was already wooded and the open fields and abandoned farms were planted with red, white, and Scotch pine. The forest has already yielded some returns in the form of cordwood.

MANCHESTER, N. H.—With a population of 78,000 persons, Manchester has a community forest of 3,800 acres located 5 to 10 miles from the center of the city. About 1,200,000 trees have been planted on this area. The trees were obtained without cost from the State nursery at Gerrish. Locally known as the Manchester Water Works Forest, this project is man-

F-363021

Road through the town forest of 3,000 acres at Russell, Mass.

F-363017

Russell, Mass., viewed from one of the surrounding hills.

aged not only to assure a sanitary water supply, but also to grow timber crops for the future. It serves also as an employment outlet, as a demonstration of the practice of forestry, is helping to improve the facilities for hunting and fishing, and is used for certain other recreational purposes.

DURHAM, N. H.—In 1900 a local farmer gave to the Durham School 80 acres to be used as a forest. About 15,000 trees have been planted on this tract, part by townspeople who volunteered their services, and part by paid labor. The trees, white pine and white spruce, were furnished without charge by State nurseries. The community forest has about 15 acres of plantations and 65 acres of natural timber of various age classes, about 10 acres being in the 40- to 60-year-age class, and 55 acres in the 40-year-age class. The native timber is 60 percent white pine and 40 percent aspen, red oak, and gray birch, by volume.

The Durham Forest is operated for the benefit of the town school system, and has also been used to demonstrate the possibilities of forestry. Considerable recreational use is made of the area, as it borders the attractive Lamprey River which is widely used for swimming and canoeing in the summer and skating in the winter. Some years ago about 300,000 board feet of sawlogs were cut, yielding a revenue of $2,000. Revenue has in the past been obtained also from pasture, and fuel wood has been cut and distributed to needy families.

MILTON, N. H.—In 1839 this town, which has a present population of 700, purchased a farm of 140 acres to be used to take care of the poor. For 30 years those having no home and needing help lived on this farm. No

Fuel wood cut from the Rutland, Vt., city forest which is under a definite plan of management worked out by the State forester.

F-363072

records are available showing the date of cutting the original virgin timber on the tract. In 1907, however, receipts were about $7,000; in 1913, $2,325; in 1917, $3,875; and in 1927 about $250, or a total of $13,450. It is estimated there is still more than 200,000 board feet of salable timber on the forest worth about $2,000. The money from timber sales has been used to build sidewalks, for highway improvement, and for various town buildings. More than 2,000 trees have been planted. A caretaker rents the old farmhouse and looks after the town property.

RUTLAND, VT.—This city of 18,000 inhabitants in the Green Mountains has a tract of about 4,000 acres, locally known as the Rutland city forest. The land was acquired primarily to assure a flow of approximately 3 million gallons of water daily. Extensive reforestation operations were begun in 1917, and 1,000,000 trees have been planted.

In 1927 the State forester made a detailed plan of management for the Rutland forest and his recommendations have since been carefully followed. The plan involves a typical multiple-use program, including watershed protection, production of timber crops, improvement of hunting and fishing facilities on Mendon Brook and its tributaries, provision of employment for local labor, and a demonstration of reforestation as well as proper treatment of natural hardwood and conifer stands. More than 5,000 cords of wood from thinnings in the older plantations and from the natural stands have been distributed to families on relief. In addition, 2,000 cords of fuel wood have been cut and sold, and sales of sawlog stumpage in three timber contracts have returned $4,000.

Wood being loaded on trucks in the Rutland, Vt., city forest for distribution to the needy.

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Returns from cordwood and timber sales in second-growth stands, such as that at the right in the Essex Junction, Vt., community forest, have been used to pay for planting stock and labor needed to establish the fine young growth at the left. More than 150,000 trees have been planted.

Essex Junction, Vt.—A village of 1,600 people located in the shadow of Mount Mansfield, the highest peak in the Green Mountains, Essex Junction has a community forest which closely resembles many of those in Europe. In it are nearly all age classes of forests of both native and planted types, the trees carefully thinned and pruned. Sawlogs, posts, and fuel wood are being cut and marketed.

The Essex Junction forest of 800 acres was originally acquired for the protection of the village water supply but it is also managed for timber growth and revenues under the supervision of the State forester. The original cost of land was about $10,000. Already more than $13,000 has been received from sales of timber products. Since the land was acquired primarily to protect the watershed, interest charges should properly be placed against watershed protection. The forestry revenues really represent profit. The forest capital is being steadily built up rather than depleted and a valuable timber supply is growing for a future harvest.

Newark, N. J.—In 1800 a private water company serving this city began acquiring land to protect its watershed. The watershed and distribution system were taken over by the city as a municipal enterprise in 1905 and the forest has been gradually expanded until its present area is 36,000 acres in one solid block, including about 85 percent of the total catchment basin.

It is locally known as the Pequannock Watershed Forest, on which there are four principal reservoirs and three smaller ones.

Planting operations on the Newark forest started in 1910. Approximately 2 million trees have been planted, covering about 2,000 acres. In 1938, 647,000 trees were planted by C. C. C. labor. A professionally trained forester has been in charge since 1931.

Forest products valued at more than $23,000 have been taken from the tract. About 10,000 cords of salvage and improvement thinnings have been cut for fuel wood for distribution to needy families. In addition, sales of saw timber, poles, posts, and similar products have yielded more than $10,000. More than 2,000 piles, valued at an estimated $1.50 each on the stump, were cut for hangar foundations at the Newark airport.

At one time, three C. C. C. camps were operated on the Newark forest. The men were engaged in planting, pruning, and thinning, the development of four recreational picnic areas, constructing fire towers, and other forestry activities.

COUNTY FORESTS OF WISCONSIN.—The county forests of Wisconsin represent a development in public ownership of a community forest nature. Since the peak of lumbering days the complete and adequate utilization of the resources in the northern sections of the State has been a serious problem. Repeated attempts to farm the depleted forest lands have failed. The county-

WISCONSIN CONSERVATION DEPARTMENT.

Improvement cutting in second-growth hardwoods, Oneida County, Wis., forest.

WISCONSIN CONSERVATION DEPARTMENT.

Organized tours of county forests in Wisconsin acquaint local residents with progress in their community property and with forest values.

Reforestation celebration on one of the 149 Wisconsin school forests which range in size from 40 to 320 acres.

forestry program has aided in getting some of these lands back into production of the crop to which they are best suited—timber. The basis of the program lies in laws providing for payment by the State to the counties of 10 cents an acre a year for maintenance of growing forests on their tax-deeded lands with the provision that the State will collect a severance tax of 50 percent on any timber cut.

The 25 Wisconsin county forests include 1,746,647 acres. They range in size from 5,467 acres in Monroe County to 205,000 acres in Douglas County. Several counties, including Oneida, Iron, Douglas, Park, Bayfield, and Marinette have more than 100,000 acres each.

SCHOOL FORESTS OF WISCONSIN.—In 1929, a State law was passed in Wisconsin enabling schools to acquire and own lands used for forestry purposes.

During the first 8 years following enactment of the law, 137 school forests were established and 12 more were added in 1938. They contain 11,200 acres. All are at least 40 acres in extent and 1 is as large as 320 acres.

The school forest is as a rule located about ½ to 1 mile distant from the school. The deed for the property rests with the local school board, the land being purchased from lumber companies or donated by them, or by railroads or other owners. Most of the land going into the school forests has been cut over or worn out, and is in need of reforestation. Many of the forests have been acquired at a cost of only $1 an acre for back taxes. The maximum purchase price paid has been $8 an acre.

After a school-forest tract is mapped, a 10-year working plan of management is prepared under supervision of the State forester who furnishes free trees for planting. All reforestation work is done by the school children themselves under supervision of the school superintendent or the county agricultural agent. In some cases whole communities in addition to school children participate in the tree planting. Women furnish lunch or picnic meals to add to the day's outing, which is often a part of an Arbor Day celebration.

The Wisconsin school forests have definite educational advantages. The children take pride in the ownership of the trees. The forests serve as demonstrations of the possibilities of forestry, furnish a laboratory for the study of forestry, botany, and wildlife, and are used for recreational purposes. The growing of timber crops for the future, however, is considered as the ultimate objective.

ST. PAUL, MINN.—The city of St. Paul owns about 500 acres of forest land. On this tract some 600,000 trees have been planted, including 200,000 red pine, 130,000 white pine, 60,000 Scotch pine, 40,000 jack pine, 35,000 white spruce, and smaller numbers of Norway and Colorado blue spruce, white

View from the Cedar Point lookout up the Cedar River Valley in the Seattle watershed forest. A part of the road system on the watershed can be seen.

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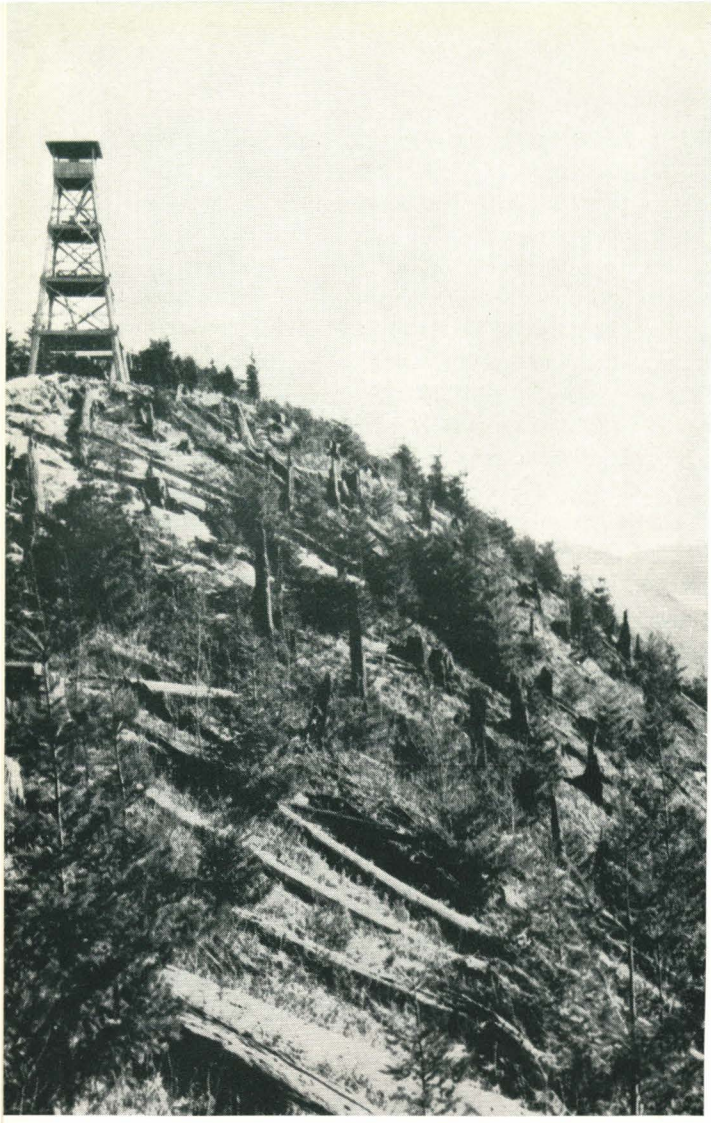


Cedar Point lookout in the Cedar River watershed forest owned by the city of Seattle, Wash. During the fire season an observer is stationed here continuously. Photo used through courtesy Seattle Water Department.

F-367133

cedar, Douglas fir, and white ash. It is known as the Vadnais Watershed. Although established primarily for watershed protection it also is used as a demonstration of forestry, and for recreation, although no fishing or picnicking are permitted on the catchment basins. Considerable W. P. A. labor has been used for tree planting and other improvements.

SEATTLE, WASH.—In order to protect its watershed, land was first acquired by Seattle in 1900, on the Cedar River watershed 25 to 60 miles east of the city. Additions have been purchased until the present area comprises 91,500 acres gross, and 66,380 acres net, the difference being in national-forest and private holdings.

A plan of forest management for the Cedar River watershed was adopted

in 1924. A forester has since been appointed and more than 3,900,000 trees have been planted. The plantings have been nearly all of Douglas fir but include also small numbers of Sitka spruce and western red cedar. The seedlings were for the most part grown in a nursery on the tract, which has a capacity of about 400,000 trees each year.

On the forest are two fire towers, four sanitary patrolmen, and four fire guards, of whom two are stationed on the towers, one in the nursery, and one at the Cedar Lake headquarters. About $1,000,000 has been received from the sale of mature timber, which is sufficient to liquidate the total original cash investment for land and timber. It has been estimated that when the forest reaches its maximum capacity, an annual cut of 48 million board feet per year will be possible based on a 90-year rotation.

NEWNAN, GA.—This city has a tract of approximately 1,000 acres known locally as the town forest. About 100,000 nursery-grown trees have been planted on this area and adequate fire protection has been provided. Thinnings have been made on the native timber stands to improve the growing condition of the forest and to furnish employment and fuel wood to families on the local relief rolls. Fuel wood alone cut from this area is estimated to have saved the city more than $1,000 which otherwise it would have had to expend for coal and other fuel for needy families. The growing stock of the forest is being built up and it is expected that considerable high-quality timber will be available for future cutting.

CANTON, N. C.—A watershed of 500 acres located some 3 miles distant in the mountains of western North Carolina is owned by this town of 5,117 inhabitants. The property originally consisted of abandoned and partly cleared mountain farms and culled and cut-over hardwood forests, the condition of which was exceedingly poor.

In 1926 the superintendent of the high school, working with other local leaders, devised a plan to develop the watershed tract for forest purposes. During the first year about 3,000 white pine, red pine, Scotch pine, and Norway spruce were planted. By 1938 the trees had reached a height of from 15 to 30 feet or more. High-school pupils have planted several thousand trees. Each year on Arbor Day additional plantings are being made and the youths enter into the program with enthusiasm. Recently more than 100 seniors planted 6,000 trees as part of a special reforestation celebration. The forest has attracted wide public interest. Boy Scout troops use it in the study of woodcraft and forestry. It assures a more pure and even flow of water, and is building up definite values in the form of timber crops.

READING, PA.—The forests owned by Reading include the Antietam forest of 550 acres, the Lake Ountelaunee watershed forest of 3,013 acres, and a discontinued reservoir area known as Old Maid's Woods.

In all, more than 2,627,000 trees have been planted on the Reading forests. Several hundred high-school girls planted the first 5,000 young trees in 1915 on the Antietam watershed and were assisted by 220 Boy Scouts in planting more trees the following year. Other plantings made on the watershed in 1915 and succeeding years have provided a complete forest cover. Some of the trees are now 40 feet tall. Some red pines are growing at the rate of 20 to 24 inches a year.

The city forester reports that more than 200 acres of trees have been pruned and several miles of lanes and trails have been constructed for fire protection. The forestry operations on the Reading holdings thus far have removed only 500 cords of wood in thinnings and 1 yellow poplar that was sold for $10. Scores of trees, worth from $5 to $10 each on the stump, are being allowed to grow into more valuable timber, and represent a considerable reserve.

Public support was obtained for the purchase of Reading's mountainous "front yard" after the timber has been removed from the steep slopes and the mountainside had been gouged out for sand. Practically all of Mount Penn is now municipally owned, and the forested slopes provide a retreat that is within walking distance of the downtown area. The forests contain hiking trails and bridle paths, numerous picnic grounds equipped with running water, fireplaces, tables and benches, and playgrounds for such sports as tennis, baseball, and football. Hunting is not allowed in the area nearest the city, but fishing is permitted in season on certain portions of the watershed.

DANVILLE, N. H.—The 75-acre church forest of Danville was established in 1760 to provide the town minister with fuel, and pasture for his cow. Rev. John Page was the first to use this forest, and records indicate that the parsonage committee met each year to decide where to cut the 25 cords of wood which was part of the minister's annual compensation. The forest furnished him with wood during the Revolutionary War, and although his money depreciated to where 1 hard dollar was worth 75 continental paper dollars, a cord of wood was still a cord of wood, and gave the same amount of heat. The forest even financed the purchase of the minister's gravestone, and furnished sorely needed funds to the town during the War between the States.

The Danville forest has been managed by three trustees for the last 100 years. Records show that the timber products have been sold by the cord, by the tree, by a clump of trees, and sometimes in blocks of 20 acres at a time. Small sums of forest income have been invested at interest. The total net income obtained for the last 100 years is $4.45 per acre per year from all sources. Although a large part of this represents interest income, the earnings from the forest itself could have been much greater if a portion

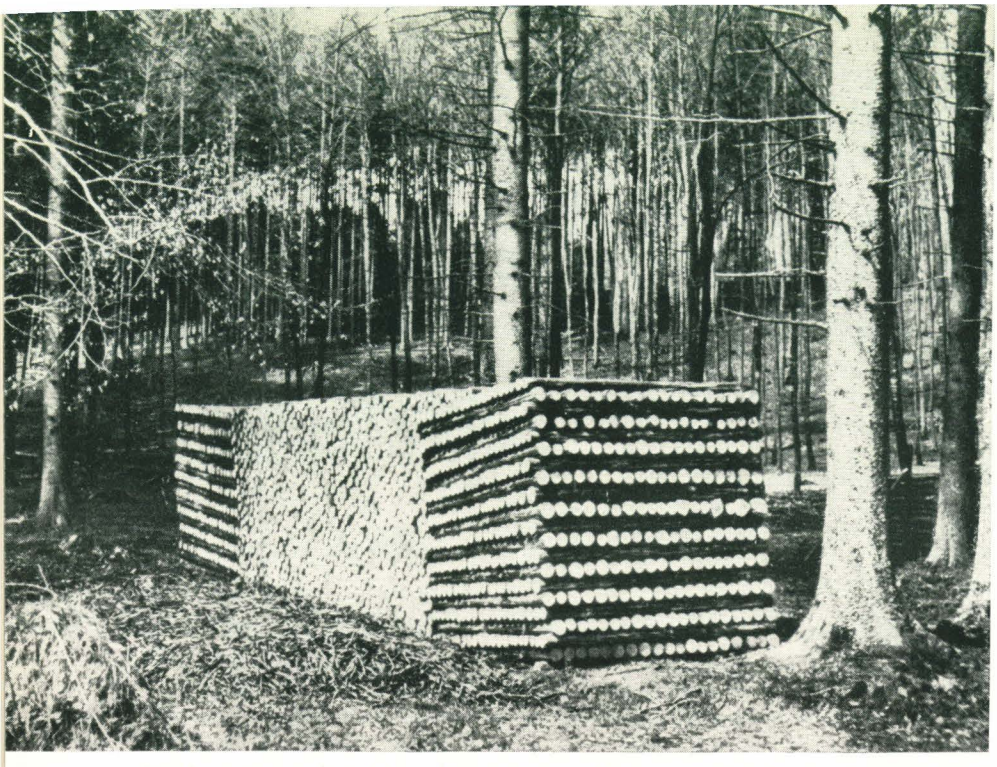
A picturesque and typical peasant home in the Black Forest. Here for many generations these people have lived by cultivating a small patch of land to raise food and grain crops, devoting a few acres to pasture. In the winter the men work in the woods, thus combining farm and forest work into a year-round occupation.

of the profits had been used in improving and developing the forest. The trustees had cash on hand on January 1, 1939, amounting to $9,316.89. They also have the original 75 acres on which is growing another timber crop.

Experience in European Countries

More forests are operated, in some parts of Europe, by the communities than by private, State, or National agencies. This is true in Switzerland, where two-thirds of all the forests are owned by the communities, and in the German Black Forest region and the State of Baden, and sections of the Vosges region of France. About 20 percent of all the forests of Germany and France are owned by communities. The people of European villages fully understand and appreciate the value of their forests. Many woods workers spend from one-third to two-thirds of their time working in the forest and the remainder on their farms or forest homesteads.

Community forests in Europe vary in size from relatively small areas of a few acres to as much as 62,500 acres. In Germany 40 percent of the area of community forests is in units of more than 1,235 acres, 43 percent in units of 247 to 1,235 acres, and 17 percent in units less than 247 acres. Small communities owning relatively large forest areas frequently receive sufficient revenues to pay part and sometimes all of their annual expenses, including those for fire protection, schools, hospitals, and roadway construction and maintenance. Net revenues of $3 to $8 an acre annually are fairly common.



Regular profits are obtained from thinnings in many European community forests. In many cases the thinnings made while the forest is growing yield as much profit as the final crop of trees.

Some of the most successful community forests in Europe are those owned by Thun and the Sihlwald in Switzerland, Epinal and the Jura communes in France, and Dienhausen, Memmingen, Freudenstadt, Baden-Baden, Gausbach, Oberharmersbach, Heidelberg, Braunlingen, Grünewald (Berlin), Rotenbach, and Zastler in Germany.

Baden-Baden, a famous watering and bathing resort in the Black Forest, has a permanent population of 30,000 people, and annually entertains more than 100,000 visitors. It is practically surrounded on the immediate outskirts of the city by a magnificient forest of 13,500 acres, 60 percent of which is silver fir and spruce, and the balance beech and pine. In a recent year the gross income from the forest was $340,000, expenses $222,210, leaving a profit of $117,790. The net income per acre was $8.75. The Baden-Baden forest has 172 employees, of whom 100 are temporary; that is, they work part of the year in the woods in logging, fire protection, planting, and other activities and on their farmsteads close by or within the forest during the balance of the year.

The village of Dienhausen in Bavaria has a population of only 139 people, in 26 households. It owns a forest of 63 acres composed entirely of Nor way spruce. For the last 12 years the forest has yielded an average annual income of $1,608. With this money the community has built a new water reservoir, a new school house, a village dairy house, and a blacksmith

shop. The 10 employees work part of the time on this forest and part of the time on private and State forests, as well as on their own farms and gardens.

Berlin owns 62,500 acres of forests. The best known and most successful of some five different units is the famous Grünewald, which extends for some distance into the country from a point only 5 miles from the center of this city of 4 million people. It has every appearance of being a typical city park, yet it has yielded unusually large revenues. This forest of 10,000 acres yields an annual gross income of from $160,000 to $200,000; the annual expenses are $24,000, so the annual profit varies from $136,000 to $176,000. The average net yearly income over a period of 12 years was $152,000, representing an annual net income per acre of $15.20 from the sale of wood products. Some 85 percent of the Grünewald forest is Scotch pine and 15 percent oak and beech. Because of its proximity to a great city, the timber products bring good prices. Timber products are transported to market at a minimum of expense. Close utilization of all wood growth, including thinnings of planted stands, is practiced.

Visitors in the Grünewald Forest sometimes number as many as 100,000 daily.

Amendingen, a village of 553 people, has a forest of 194 acres. Forest products from this woodland have yielded an annual income per acre of $25.97.

The old historic city of Heidelberg, with 85,000 population, has a forest of 5,925 acres on the steep slopes bordering the city and the Neckar River. In a recent year the income from sale of forest products was $48,585, with expenses of $27,847, leaving $20,738 net, or a net income per acre of $3.50.

In the forest owned by the village of Denklingen, of 1,200 inhabitants, the annual growth is not cut regularly but is saved for periodic harvesting.

A village sawmill in Germany where the straight, round, and symmetrical logs of well-managed forests are sawed into lumber, cross ties, and other useful products. Such industries as well as the woods' operations give employment to a considerable part of the population.

A 7 years' accumulation of growth enabled the village to build a new $6,400 kindergarten home, and a new $40,000 reservoir pipe line.

Memmingen in Bavaria has two community forests the income from which is used exlusively for the support of a hospital and home for the aged and poor. The annual income from the operations of these two forests averages about $48,400.

In the State of Baden in the Black Forest 5 villages with populations of from 248 to 2,034 persons own forests of from 1,273 acres up to 4,760 acres. They are Gausbach, Oberharmersbach, Braunlingen, Rotenbach, and Zastler. The net yearly income per family from these forests varies from $28.24 to $116, which is more than the average family tax bills. The net annual income from these forests has varied from $2.04 to $9.02 an acre.

Why Community Forests are Started

Community forests abroad have frequently been an outgrowth of the village commons formerly used as a source of fuel wood and for pasturing the family milk cows.

In this country the initial and formative stages of community forests have in many cases emerged from a desire for better protection of a watershed that supplies water for domestic use. Increases in the populations of many cities have resulted in demands for greater supplies of pure water. Watersheds have been extended and public water departments have sought to

The metropolitan water district of Boston has planted more than 1,500,000 trees on one of its catchment basins. This view shows one of the many plantations. Recently about 79,000 acres have been acquired on the Swift River watershed on which more reforestation work will be done.

F–353126

The old swimming hole is up-to-date in many community forests where running streams provide an ever-changing supply of pure water.

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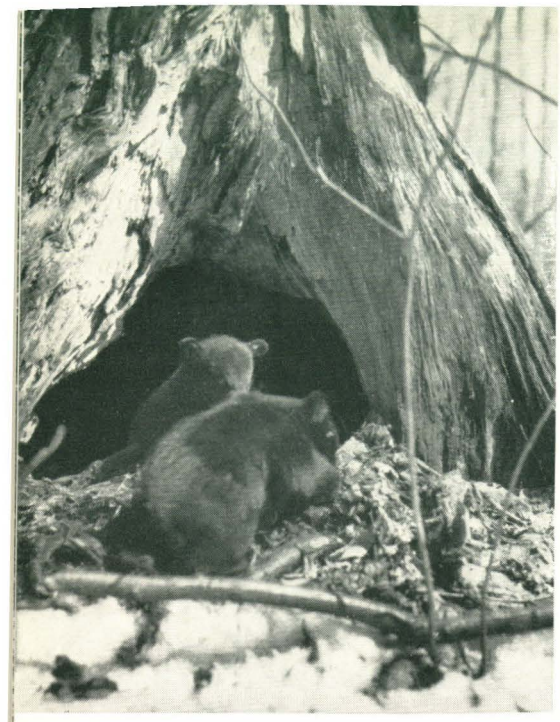
Children enjoy their meals in the out of doors. Convenient picnic grounds and play equipment can be provided in the nearby community forest.



Community forests that are part of other forest areas or are large enough to afford refuges, may be frequented by some of the bigger game animals. This picture of bear cubs was taken on the municipal watershed at Bradford, Pa.

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put their properties to greater productive use by growing timber. The metropolitan water district of Boston, for example, has materially enlarged its forest holdings and impounding basins in recent years. New York City has also extended its facilities to assure a flowage of a billion gallons of water per day.

An important motivating force behind community-forest development in other neighborhoods has been the need of and efforts to provide nearby recreational outlets. Recreational demands vary greatly with local facilities, climate, and such factors as population trends and density. Forests can provide not only the facilities usually associated with parks, but also others inherent only in forests. Working hours are decreasing and families now have more leisure than formerly. Forests located far away, however, are inaccessible to a large percentage of the population of many communities because of the expense of traveling to and from these areas. Located close to living centers, the community forests provide suitable environment in which people may spend their leisure hours, Sundays, and holidays inexpensively in the out of doors close to nature and yet close to home. Coincident with the recreational use, however, is the long-time ultimate objective of timber production. The two are entirely compatible, as has been demonstrated in national as well as State forests. The main body of the timber, unfrequented by mankind, may be managed for

F-323189

Community forests are frequently game-bird sanctuaries. As such they provide shelter for nests and cover for the young.

F-358728

The 800-acre community forest at Warner, N. H., has furnished labor for local men and raw material for a nearby chemical plant.

maximum yields of forest crops. Other areas may be set aside mainly for recreational uses, and areas along streams, lakes, roads, in rugged canyons or glens, or near waterfalls may be reserved for scenic beauty.

Community forests have sometimes resulted from a move for esthetic improvement of suburban surroundings, such as roadside beautification, which leads to the conversion of idle, eroding, and ugly hillsides into attractive forests. Some community forests have been started to improve hunting and fishing, to provide arboretums or bird and wildlife sanctuaries, or establish memorials.

Community forests in some instances have been established primarily for their educational values. They serve as demonstrations of the practice of forestry for both young and old. They are used as outdoor laboratories in which the school children study forestry, botany, geology, entomology, and allied sciences.

It is a notable fact that many of the community forests in the United States have been started through the interest, enthusiasm, and support of public-spirited individuals or groups of civic-minded citizens. Frequently luncheon clubs, forestry and conservation associations, Boy Scout councils, American Legion posts, garden clubs, and similar organizations have initiated and sponsored such projects. School superintendents, mayors, foresters in public and private employment or working as consulting

foresters, and forestry schools have played important parts in initiating others.

Laws favorable to community-forest development have aided the movement. Many States now have authorized various political subdivisions to purchase lands, receive gifts of funds or lands, and manage such areas as forests. Nineteen States have passed acts dealing with some phase of community forestry. In Massachusetts experience over a number of years indicates that 102 town forests resulted directly from the encouragement given by the law of 1913. Free trees made available from State nurseries have been of great aid in some States in plantings on some community forests.

An Aid to Local Labor

Good forest management makes the best use of the forest for the production of timber compatible with the other values and uses. It helps to maintain permanent industries and otherwise contributes to a stable community through continuous employment of local labor.

Community forests offer a situation favorable to application of the management principles of sustained yield and multiple use. The permanence and continuity of policies assured by community ownership should make it possible to handle the forest as a regular business enterprise.

The community forest, when firmly established and operating on a continuous-cropping basis, may contribute its share of material to maintain local industries, thus not only aiding local employment but also contributing to stabilized prosperity and group welfare. In many European countries this relationship is well recognized. An illustration in this country may be found at Warner, N. H., where a hardwood distillation plant is supplied with raw materials partly from the local town forest.

Transportation to market is the great problem in profitable operations in most forests. Because of their location, it is but a short haul to market from the community forests for all classes of timber crops. Merchandising of the forest products may, therefore, be done at low cost. In a community forest even the thinnings frequently may be marketed as fuel wood, posts, staves, or in some areas as pulpwood.

In recent years thousands of men in such organizations as the Civilian Conservation Corps and the Works Progress Administration have been employed in planting trees, building roads, fire towers, trails, recreational facilities, and other improvements, as well as in thinning, pruning, reduction of fire hazards, and other jobs associated with forest management. Business recovery is likely to leave behind a considerable number of workers who will spend the remainder of their lives on the border of dependence. Many community forests are likely to be strategically located near areas

wherein there is considerable unemployment. They may serve as a reservoir of opportunity for productive and useful employment of men during economic depressions as well as for permanent employment.

A report on the development of the 1,746,000 acres in Wisconsin county forests reveals the possibilities of such forests as a source of employment. During the years 1933–37, a program was undertaken with the help of the Civilian Conservation Corps and other labor, which included planting of more than 32 million trees, improvement by thinning and other cultural treatment of 23,000 acres of timber stands, building of nearly 2,000 miles of truck trails, reduction of the fire hazard on 192,000 acres, construction of 336 miles of firebreaks, and the building of nearly 3,000 miles of telephone lines and 21 lookout-tower cabins for fire control. Fifty-five recreational camp sites were developed, 111 fish-rearing ponds were constructed, and 703 miles of trout streams were improved.

The expense to the community of providing work in the forest may become self-liquidating through increased returns from the forest at some future date. In addition, more or less regular employment for a number of persons may be furnished by a forest which is in production, not only in harvesting the timber and other crops, but also in replanting and maintaining the perpetual productivity of the forest.

Where the land in the community forest already contains some forest growth, improvement of the stand will offer immediate employment in the removal of "wolf" or other useless or low-value trees. Such thinnings may frequently be sold for fuel or other products and may yield enough

Christmas trees may yield an early income from some of the community-forest plantings and will provide local employment in the harvesting.

F-358183

returns to pay for the labor and leave an income besides. As the forests mature, thinnings and cuttings may furnish raw materials for small community industries which fabricate furniture, toys, novelties, or produce pulp and paper or other special products, thus increasing the employment of certain of the more skilled laborers.

Possibilities of Profits

Community forests generally require only small initial investments. A large percentage of those already established in this country were originally small in area; many of them have, however, been gradually enlarged by purchase or other means. Low initial capital investment may aid materially in making a venture of this kind financially profitable.

In Massachusetts a survey showed 25 percent of the community forests were acquired by purchase of lands at relatively low cost, 30 percent were former town poor farms that were converted to forest use, and 20 percent were acquired by the towns through gift, some of them as memorial forests for World War veterans or for some outstanding local personality. In New Hampshire a survey indicated 30 of the town forests were acquired by gift, 7 through tax title, 5 through conversion of former common grounds, 6 by combination of gift and purchase, and the remainder by outright purchase in a large percentage of cases primarily for watershed protection. In this country lands suitable for forestry purposes may usually be acquired at values ranging from $2 to $12 per acre.

In the majority of cases in the United States community forests have been started on lands depleted of forest growth. Such lands will not yield immediate income as forests even with the best of management. Some of the older community forests have also received only casual supervision until recently. With improvement in the stand that has naturally taken place and with better management their earnings should increase.

On areas that need to be planted patience must be exercised in the fulfillment of a long-time program. It requires time to grow trees. The early dividends may be largely social rather than financial. The forest can be made to yield immediate and sustained benefits to the people in healthful recreation in the outdoor environment that only a forest provides in addition to the other public-forest values attendant upon watershed protection and wildlife production. When the trees reach merchantable size—in 40 to 60 years or longer—a regular and sustained annual income may be possible from the sale of timber crops, if rightly managed. As the timber approaches or reaches maturity it may be expected to produce firewood, poles, posts, cross ties, pulpwood, and sawlogs. Some community forests

have yielded Christmas trees and even ornamental trees for planting in parks and along streets and highways.

Under favorable conditions it may be possible to liquidate the original investment and show a profitable return on a community forest in a comparatively short period. Some of the early established community forests have been on a self-sustaining basis for years. In several cases net returns of $2 to $3 per year per acre have been made.

Some Questions Often Asked

Are more forests needed in this country?

The Chief of the United States Forest Service in his report for 1938 said: "* * * on the forest land we have, both now and in the future, we do need more and better forests. We need them because we have drawn on a living resource without replenishing it; because for more than 3 centuries we have abused a heritage that was once one of the greatest forests in all the world; because we are now paying for that abuse in terms of erosion and floods, in terms of reservoirs, rivers, and harbors choked with silt, and in terms of families, communities, and whole counties left desolate and forelorn * * *.

"More and better forests are needed for New England, whose tall masts of clear white pine once helped a tiny American fleet defy the Mistress of the Seas; for the Lake States, formerly a great forest reservoir, and for the near-by Middle West, both of them now dependent on hauls so long that transportation often doubles the price of sorely needed forest products.

"For the South, too, more and better forests are needed; a crescent-shaped South that, stretching from Virginia to Texas, has access by ship and rail to foreign and domestic markets; a South that, sorely needing new and more permanent industries, has 60 percent of its area in forest lands most of which are producing 50 percent or less of what they are capable of producing.

"For more than 300 years our forests have been chopped, burned, and depleted. Instead of being cropped they have on the whole been exploited and ravished. Now huge sections of our country, endowed with lands still most valuable for forest purposes, must use less desirable species and grades, or substitutes, or must get many vital forest products on a basis of long and costly hauls. So, though the forest lands we have seem sufficient for present and future needs, we need on them more and better forests."

The community might well aid in the Nation's forest program.

Should bonds be issued to start a community forest?

Many villages and cities are already so burdened with heavy interest charges that the people are unwilling to incur further indebtedness, except in special cases. Moreover, it is often unnecessary. In this country there

are millions of acres of idle, submarginal, and wasteland, much of it lying within 1 to 20 miles of cities and villages. Many of these areas are unproductive, a burden to the owners, and are tax delinquent. The owners of such lands in many cases are deeding them to public agencies to be developed for forestry purposes and held in trust for coming generations.

Are special laws necessary for development of a community forest?

In many States, laws are already on the books permitting the acquisition and operation of such forests by towns and cities or other legal subdivisions. The State forester can furnish a copy of the State law or information concerning the conditions under which such forests may be operated.

How can the community's lands be reforested?

In many cases if the area is not completely denuded, the forest will regenerate from natural seeding. If it is necessary to plant trees, they can often be obtained free, or at a low cost, through the State forester. Planting may be done by the C. C. C. or by relief of other labor. Boy Scouts, Girl Scouts, 4–H clubs, and high-school pupils also may do planting under proper supervision. In some cases Arbor Day has been used as a community forest planting day.

What species of trees should the community plant?

The State forester, who is best acquainted with local conditions, can best make specific suggestions. His advice is free, and in some States one or more men devote part or all of their time to aiding communities.

How can a community forest aid local business?

A properly managed community forest may serve as a demonstration to nearby private farm woodland owners. They can see and follow better forest practices proved through experience in the community forest with resulting increases in their individual incomes and the total income of the community. A community serving a thousand farms would benefit to the extent of $50,000, annually if each farmer's average income from woodlands were increased $50 a year through better forest management. This would have essentially the same effect on business as though an industry were started that would provide a pay roll of $50,000 a year.

Can community forests aid in flood and erosion control?

Forests aid in checking water run-off. No other vegetative cover equals that of the forest in this respect. Soils in virgin forests can absorb water almost as fast as it falls. The natural texture of forest soil is like that of a bathroom sponge. During the coldest winters soils in the forest do not freeze as deeply as other soils. The heavy rains will therefore soak into the forest floor instead of running off to raise the flood crest. The upper 3 inches of forest soil taken from old-growth stands of hardwoods in the Ohio

Valley, for example, absorbed 14 times as much water a minute as the more compact adjacent field soils, and the upper inch, 50 times as much. Millions of acres of once fertile land have been destroyed for productive farming by erosion, and such worn-out farming land, which erodes more each year, brings no income. Overflow and flood-damaged lands are also liabilities, yet many such cheap and abandoned areas can be used to grow crops of trees.

Communities not having watershed forests may find it to their advantage to establish them to control silting of reservoirs. Examples of such silting are numerous, according to United Sttaes Department of Agriculture Miscellaneous Publication 331, The Land in Flood Control.

"Extreme cases have occurred in the southern Piedmont. Thirteen major reservoirs there, with dams averaging 30 feet in height, have completely filled with eroded material. Their average useful life was 29.4 years.

"A municipal reservoir built near Spartanburg, S. C., at a cost of $470,000, lost 17 percent of its original storage capacity in 8 years. Another near Waco, Tex., costing $2,000,000, filled one-fifth with silt in less than 6 years after construction. Lake Olathe at Olathe, Kans, costing $42,000, filled 10 percent in 5 years. Elephant Butte Reservoir near Hot Springs, N. Mex., costing $5,000,000, lost 14 percent of its capacity in 20 years; and Gibraltar Reservoir at Santa Barbara, Calif., costing $800,000 was 30 percent silt-filled after 16 years.

"The flood of March 1938 in southern California caused terrific damages to a series of reservoirs built for flood control by the Los Angeles County Flood Control District. Storage losses generally ranged from 10 to 60 percent of original capacity as a result of erosional debris accumulations from this one storm. Such losses virtually destroy the flood-control value of such reservoirs. The actual loss may have reached one-fourth of the original investment of over $21,000,000 (including some reservoirs serving for water supply as well as flood control). * * *

"Control of erosion in the drainage basins is the only economical and practicable method of dealing with the silting problem. Other methods have been tried but have been found generally ineffective."

Must the community forest be in one solid block?

Although this may be desirable for convenience in management, it is not necessary. Some community forests are divided into several units. Often it may be impossible to assemble all the lands in a given block or area.

How can a community forest be used for scenic improvement?

Properly located it can be used to hide unsightly lands near and around the town or city. Progressive communities are recognizing that beautiful surroundings are a valuable asset.

The project may take the form of a scenic roadside forest improving the approaches to a city. It may include tracts of land several hundred feet wide or even wider along each side of a highway in which recreational developments may include such features as campgrounds, overnight shelters, pure water supplies, bridle paths, and picnic facilities of use to the people of the neighborhood and to the traveling public.

Similarly the project may be a streamside forest, such as the State of Indiana is developing. Here, as in other States, it is becoming more and more difficult for the public to reach the rivers because the banks are posted against trespassing. The State has undertaken development of riverside demonstration forests in which recreational use and timber production are major objectives. Similar reforestation areas owned by communities not only might serve to beautify the stream banks and protect them from erosion, but could also provide entrance to the streams for fishermen and others.

How can the community forest benefit local sportsmen?

Game animals and birds find the habitat they need in woodland areas. Such birds and animals as partridges, rabbits, squirrels, chipmunks, and raccoons are typical of those that will inhabit small forests. Hunting in the forest and in adjacent areas may be improved because with suitable conditions game will multiply rapidly. Under proper management, also, the fur bearers, such as the weasel, mink, fox, squirrel, rabbit, and raccoon, may be increased in the community forest and may furnish the breeding stock for adjacent areas. The larger game animals will inhabit only the larger forests and areas less used by the public.

Often it has proved desirable to make the community forest a wildlife sanctuary. As such, however, it can still contribute to better hunting on outside lands. Nature lovers and photographers find a community forest an ideal place for the study of animals and birds. As an outdoor laboratory for the study of biology and other natural sciences it can be a valuable aid to the schools.

The community forest can also contribute to better fishing in the neighborhood. In the forests the waters are cool, clear, and usually spring-fed, the streams are shaded, the spawning beds are clean, and aquatic insects and other fish foods are plentiful. On the other hand, torrential rains soon erode the soil from treeless slopes, filling the streams with silt, smothering the fish food on the stream beds, and covering up spawning areas.

Forest conditions are favorable not only to trout, but also to warm-water fish. Recently in Missouri, two adjacent streams were studied. The valley slopes of the first were largely treeless, the river was muddy and carried a tremendous silt load. In this river there were a few of the clear-water-loving game fish, such as bass, but many of the undesirable rough

fish, such as carp and sucker. Fishing was poor. The second stream, on the other hand, had valley slopes more than half forested and was not nearly so muddy as the other. The game fish here outnumbered the rough fish, and fishing was considered good.

How is the income from community forests generally used?

In some cases any surplus above expenses is turned into the general fund to be used for whatever purpose it is needed. In other communities, the income is being placed in a trust fund for support of a local hospital, church, school, or other public institution.

What management do these forests need?

A simple plan of management should be made for every community forest. The State forester can be helpful in preparing such plans. They should lend themselves to local circumstances and fit local requirements as to objectives and methods of attaining them.

Every community forest should be carefully protected from fire. This is the first and most important requisite in any management plan. If the forest is planted, provision should be made for thinning, and perhaps pruning, at the proper stages of development. Livestock should be prohibited from pasturing in it. Care should be exercised against insect and fungus damage.

If the forest is sufficiently large to justify the employment of a professional forester, he can plan and supervise these details. There are about 40 professional foresters now employed on community forests in this country.

Guidance by State Foresters

The State forester is in the best position to guide development of community forests within a State. In all cases a responsible committee or board should be in charge locally. Practice varies.

In New England a forest committee appointed by the town board of selectmen is generally the local controlling body. Vermont and New Hampshire require approval of the State forester before cutting is permitted on any land acquired by purchase for community or town forests. Massachusetts law requires that a town forest committee be appointed to assume responsibility for the management of each forest. The State forester at Boston supplies working plans and gives advice in the technical management of the various areas.

In Wisconsin officials of the State Conservation Department have direct supervision of the county forests.

A forestry committee of the county board of supervisors has control of the acquisition, planting, and management of each of the county forests in New York. In case of forested reservoir watersheds all planting, fire-pro-

tection, and management activities are handled by the city engineers, superintendents of water boards, or similar municipal officials. City, village, and school-district forests are supervised by local committees.

The local governing bodies under guidance of the State forester can give permanence, stability, and continuity of policy to the management of the community forest. It may be impossible at first for the community to employ a professionally trained forester because of the expense involved. A group of communities owning forests might well cooperate, however, to employ an experienced man to guard against mistakes that might prove costly.

The system of community forests within a State should supplement and complement the State forests and should be closely integrated with them for adequate protection and management. Local committees and boards will find the technical skill and background of experience and acquaintance with local conditions of the State forester and his assistants a valuable aid in solving their problems.